

Invitation to IQST Seminar

on Tuesday, November 14th, 2017, 11am
Ulm University
O26, Room 4309
Albert-Einstein-Allee 11



Prof. Dr. Barry Garraway
University of Sussex

Adiabatic dressed potentials with cold atoms: Quantum technology applications

ABSTRACT

Dressing atoms with radio-frequency and microwave radiation opens up new possibilities for cold atoms, and condensates, in new types of trap and in new topologies involving waveguides [1,2]. This is because of the flexibility inherent in the vector coupling of a magnetic dipole moment to electromagnetic fields which can be varied in time, frequency, orientation and space. This talk will introduce the adiabatic potentials and adiabatic trapping of atoms and give examples of the different types of atom trap together with applications to quantum technology.

[1] Topical Review: Recent developments in trapping and manipulation of atoms with adiabatic potentials, B.M. Garraway and H. Perrin, J. Phys. B 49, 172001 (2016).

[2] Trapping atoms with radio-frequency adiabatic potentials, H. Perrin and B.M. Garraway, in Advances in Atomic, Molecular, and Optical Physics, vol. 66, (2017) pp. 181-262. (arXiv:1706.08063.)

Host: Prof. Dr. Wolfgang Schleich, Institut für Quantenphysik